

KRASULA, Rudolf, inz.

Ten years of experience with glued sleepers. Drevo 19 no.7:
251-253 J1 '64.

1. Research Institute of Transportation, Bratislava.

GIYZIN, I., inzh.; KRASULIN, I., inzh.

The PTVL universal measuring instrument. Radio no.1:45-46 Ja '65.
(MIRA 18:4)

KRASULIN, I.D., inzh.

Using electric resistance tensometers to investigate the boundary effects of the couplings of steel shells. Trudy VNIIST no.13:345-357 '63. (MIRA 17:11)

KRASULIN, I.D.

Stressed state and the carrying capacity of T-joints. Stroi, truboprov.
9 no.10;21-25 0 '64. (MIRA 18:7)

MOSULIN, M. (Moskovskaya oblast')

Industrial fire crews. Pozh. delo 7 no. 2:23 P '61.

(MIA 14:2)

(Moscow Province--Factories--Fires and fire protection)

KRASULIN, N.

Shortcomings in the milling system of the milling combine being
built in Vologda. Muk. elev. prom. 23 no.12:19 D '57. (MIRA 11:2)

1. Glavnyy tekhnolog Yaroslenskogo oblastnogo upravleniya khlebo-
duktov.

(Vologda--Flour mills--Equipment and supplies)

KISELEV, I. (Minsk); KRASULIN, N. (Yaroslavl'); MEL'NIKOV, P. (Leningrad)

A useful measure. Muk-elev.prom. 25 no.1:31 Ja '59. (MIRA 12:3)
(Grain milling)

DUROV, I.S.; KRASULIN, N.N.; IONIN, S.N.

Experimental study of panels for apartment houses. Trudy NPI 147:
11-16 '63. (MIRA 17:3)

KRASULIN, N.N.; PAVELKO, V.L.

Experiment in using surveying methods and instruments for studying
defects in structural elements. Trudy NPI 147:27-29 '63.

(MIRA 17:3)

KRASULIN, N.N.

Resistance of wood to compression across the fibers as related to its structure. Trudy NPI 147:37-54 '63.

Experimental study of shear stresses of wood along the borders between the annual rings. Ibid.:55-60 (MIRA 17:3)

KRASULIN, N.P. (g.Fashkina - Moskva); MISHIN, S.A. (g.Pushkino - Moskva).

Scales for determining transpiration by weighing twigs. Bot.zhur.

41 no.8:1145-1150 Ag '56.

(MLRA 9:12)

(Scales (Weighing instruments)) (Plants--Transpiration)

KRASULIN, N.P.

USSR/Forestry - Forest Cultures.

K.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95838

Author : Krasulin, N.P.

Inst : All-Union Scientific-Research Institute of Forestry and
Mechanization of Forestry.

Title : Value of Organic and Mineral Fertilizers for Raising
Slow-Growing Seedlings of Forest Species.

Orig Pub : Byul. anuchno-tekhn. inform. Vses. n.-i. in-t lesovedstva
i mekhaniz. lesn. kho-va, 1957, No 4, 38-41.

Abstract : Experiments on fertilization of seedlings were established
in the spring of 1932 at the Ivanteyevskiy Nursery of the
ASRIFM (All-Union Scientific-Research Institute of Fores-
try and Mechanization of Forestry) on strongly podzolic,
average clayey unfertile soil with pH 4.3. Lowland turf,
applied in the spring from a calculation of 100 t/ha,

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USSR/Physiology of Plants - Water Regime.

I.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67828

Author : Krasulin, N.P., Pankratova, N.M.

Inst : All-Union Scientific Research Institute of Forest Economy.

Title : Transpiration as an Index of Water Absorption by the Root Systems of Tree Species.

Orig Pub : Dokl. AN SSSR, 1957, 113, No 4, 927-929

Abstract : During the summer of 1951 the transpiration intensity of 23-year old trees of an oak-ash plantation in Sal'skaya Dacha (Rostovskaya Oblast') was determined using the weighing method of L.A. Ivanov. Transpiration dropped with the onset of the dry season; the process was more marked in the ash than in the oak, and it was also more marked in the areas of more severe natural conditions. Rain caused a sharp rise in transpiration in the ash, followed by a

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- 14 -

KONOPLYANTSUV, A.A., redaktor; KRASULIN, V.S., redaktor; SHIROKOV, A.S.,
redaktor; KOLOSKOVA, M.I., redaktor izdatel'stva; GUROVA, O.A.,
tekhnicheskiiy redaktor

[Experience in using geophysical methods of prospecting in hydro-
geological, engineering and geological research] Opyt primeneniia
geofizicheskikh metodov razvedki i gidrogeologicheskikh i inzhenerno-
geologicheskikh issledovaniyakh. Pod red. A.A.Konopliantseva, V.S.
Krasulina i A.S.Shirokova. Moskva, Gos. nauchno-tekhn. izd-vo lit-
ry po geol. i okhrane neдр, 1955. 74 p. (MLRA 93)

1. Russia (1923- U.S.S.R.) Ministerstvo geologii i okhrany neдр.
Tekhnicheskiiy sovet.
(Prospecting--Geophysical methods)

KRASULIN, V.S.

ARM Arvela magnetometer. Razved.i okh.nedr 21 no.6:59
N-D '55.

(MLRA 9:12)

(Magnetometer)

KRASULIN, V.S.

Meeting of geophysicists of the Ministry of Geology and the Conserv-
ation of Mineral Resources. Izv.AN SSSR Ser.geofiz. no.10:1234-1236
0 '56. (MIRA 10:1)
(Prospecting--Geophysical methods)

KRASULIN, V.S.

"Atlas of theoretical curves for interpreting magnetic and gravitational anomalies." D.S. Mikov. Reviewed by V.S.Krasulin.
Razved.i okhr.nedr 22 no.5:63 My '56. (MLRA 9:9)

1. Ministerstvo geologii i okhrany neдр.
(Prospecting--Geophysical methods) (Mikov, D.S.)

KRASULIN, V.S.

Conference of geophysicists of the Ministry of Geology and
Conservation of Mineral Resources of the U.S.S.R. Razved.i
okh.nedr 22 no.7:62-64 J1 '56. (MLRA 9:11)

1. Ministerstvo geologii i okhrany nedr SSSR.
(Prospecting--Geophysical methods)

KRASULIN, V.S.

New American geophysical instruments. Razved. i okh.nedr. 22
no.11:59-62 N '56. (MLRA 10:1)

1. Glavgeofizika Ministerstva geologii i okhrany nedr SSSR.
(Geophysics) (Physical instruments)

ANNALS, U.S.

AUTHORS: Krasulin, V.S., and Fedjuk, V.I.

132-11-7/7

TITLE: 40 Years of Soviet Prospecting Geophysics (Sorok let sovetskoy razvedochnoy geofiziki)

PERIODICAL: Razvedka i okhrana nedr, 1957, No 11, pp 50-62 (USSR)

ABSTRACT: Geophysical prospecting methods were first applied by the Special Committee for the Study of the Kursk Magnetic Anomalies (Osobaya komissiya po izucheniyu Kurskikh magnitnykh anomalii-OKKMA) during 1919-1927. During subsequent years the methods of induction, electric coring and magnetism were perfected for prospecting minerals, oil deposits and water resources. The method of aeromagnetic surveying aided in discovering deposits located in areas of poor accessibility. Perfection of the aeromagnetometer "A3M-49" by a group of specialists under the supervision of G.S. Smirnov enabled to establish the crystalline structure of areas covered by thick sediments, the contours of basic geologic formations, tectonic changes besides locating mineral, oil, and gas deposits. More than half of the territory of the USSR has been surveyed with this instrument at the present time. Gravimetric surveying started in 1932, was conducted by uniform methods and according to a uniform government plan. Up to 1939, foreign made gravimeters were

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40 Years of Soviet Prospecting Geophysics

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used in the USSR. During subsequent years, the following gravimeters were constructed: "ГКП-2", "ГКПМ-3", "ГКМ-5" "CH-3", "ГКА", "ГКОМ" and "ГAK-3M". Parallel with gravimetric surveying on the surface, were conducted studies of gravity on the bottom of water reservoirs. Used were the gravimeters "ДГМ", "ДГА", the automatic altimeters "BA-48" and "ГБ-52", the bottom gravimeters "ДГПЕ" and adapted gravimeters "ГAK-3M". This method aided essentially in surveying the Kursk Magnetic Anomaly, the Krivoy Rog iron ore rayon, the chromium deposits of the Ural, the Volga-Ural and Ural-Emba oil districts, the depressions of the Bashkir Ural region, south-eastern Caucasus, Azerbaydzhan, and the Dnepro-Donets basin, several districts of the Turkmen SSR, and other areas. In connection with the exploration of northern permafrost areas, the ondometric device "ПА-6" was constructed by A.A. Petrovskiy and V.V. Alekseyev. Operating on direct current, the potentiometer "ЭП-1" was manufactured in series since 1934. In 1935, seismometers were used for prospecting for oil deposits on a large scale. Construction of multi-channel seismic stations was started in 1947, and seismography became one of the most important methods of geophysical prospecting operations. At present, domestic industry manufactures 26-

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40 Years of Soviet Prospecting Geophysics

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channel seismic stations "CC-26-51-Д" , 60-channel seismic stations "CC-60" and small seized instruments "CC-30/60-56" Soviet industry met the requirements of seismic expeditions by manufacturing seismographs of the types "СП-16" and "СП-16М". The radiometric method gained great importance in the USSR for geophysical purposes. The latest types ("ACFM-25", "ACFM-38" were issued in conjunction with the aeromagnetometer "AM-11" by which the geologic efficiency of each instrument was increased. Beginning in 1939, a group of specialists under the supervision of G.A. Gamburtsev applied the correlation method of refracted waves ("KMPB"), which method was further developed to the method of deflected waves, which remained the basic method for prospecting for oil deposits, and establishing the complex structures of the earth. With the aid of this method, the Buzovninskaya deposit on the Apsheron peninsula was discovered in 1940, and further important results were obtained on southern Emba, which lead to discoveries at Narmundanak, southern Koshkar, Tentyaksor and other deposits. Parallel with core sampling by electric means were developed other methods of examining drill holes, such as resistivometry, inclinometry, cavernometry, inclinometry. From the semi-automatic stations "ПКС-2000" and "ПКС-1200" were developed

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40 Years of Soviet Prospecting Geophysics:

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the automatic stations "A3KC-52" and "OKC-52" with electronic electronic potentiometers "ПАК" or with photorecorders "ФР-4". In 1948, gas sampling by electric means was widely applied with the aid of the semi automatic station of the type "ГК" , and lately with the automatic gas sampling station "АГК-56" combined with the chromatic gas analyzer "ГК-2". Research is conducted at the present time to improve the method of core sampling by magnetic means ("М-10"). During the past years radioactive gamma core sampling has been developed, together with several new modifications, such as neutronic core sampling, gamma-gamma core sampling, by the activation and isotope methods. The Soviet industry has developed up-to-date devices for radioactive core sampling ("А3К-7-55"). Of special importance are methods of complex geologic-geophysical research, developed by Soviet geophysicists, applicable for separate regions and industrial districts. Examples of complex prospecting are the Kursk Magnetic Anomaly and the Turgayskaya depression. An eastern geophysical expedition has successfully applied aeromagnetic, surface-magnetic and gravimetric methods at prospecting for diamonds in kimberlite layers in the Yakutsk ASSR. Switching to a 1:50,000 scale at aeromagnetic surveying in connection with limited surface

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40 Years of Soviet Prospecting Geophysics

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magnetic surveying resulted in the discovery of numerous iron ore deposits. Rational application of electric prospecting for solving of hydro-geologic problems is of great importance. As to the future, Soviet scientists are facing the task to further develop the physico-mathematical basis of research as well as further develop the methods of interpreting the results of geophysical surveying. Soviet geophysicists and designers have constructed new types of geophysical devices, among which are automatic electronic compensators "ЭАК-2" electronic needle compensators "ЭСК-1" electronic computing compensators "КСП-2" and numerous other instruments for geophysical prospecting.

ASSOCIATION: Ministry of Geology and Conservation of Natural Resources of the USSR
(Ministerstvo geologii i okhrany nedr SSSR)

AVAILABLE: Library of Congress

Card 5/5

AUTHOR: ~~Krasulin, V.S.~~
TITLE: Readers' Conference (Chitatel'skaya konferentsiya) 132-58-4-17/17
PERIODICAL: Razvedka i Okhrana Nedr, 1958, Nr 4, pp 63-64 (USSR)
ABSTRACT: A readers' conference, called by the Gosgeoltekhizdat, took place in Moscow on 28 February 1958, where both achievements and shortcomings of printing methods in the USSR were discussed.
ASSOCIATION: Gosgeoltekhizdat
AVAILABLE: Library of Congress
Card 1/1 1. Printing-USSR

USCOMM-DC-54760

KRASULIN, Veniamin Semenovich

[Simplest methods of determining minerals under the conditions of a geological field trip] Prosteishie metody opredeleniia mineralov v usloviakh geologicheskogo pokhoda. Moskva, Nedra, 1965. 83 p. (MIRA 18:3)

KRASULIN, V.Y.

Accessory pancreas in a patient with asymptomatic cancer of the thyroid gland. Khirurgia 40 no.7:131-132 JI '64.

(MIRA 18:2)
1. Fakul'tetskaya khirurgicheskaya klinika Rostovskogo meditsinskogo instituta.

S/135/60/000/009/003/015
A006/A002

AUTHORS: Krasulin, Yu. L. and Sagalovich, V. V., Engineers

TITLE: Welding With Consumable Electrodes of Thin Stainless Steel Sheets
in a Mixture of Carbon Dioxide and Argon

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 9, pp. 10-11

TEXT: In gas-electric welding with consumable electrodes the shielding gas must ensure the lowest possible value of the critical current density, required for the jetlike or fine-dropped transition of the metal in the arc, providing for a stable arc discharge. Differing from single-atom inert gases, such as helium or argon, carbon dioxide dissociates in the high-temperature zone of the arc, forming carbon monoxide and oxygen. As a result exothermic reactions occur in the welding pool producing additional heat which has a positive effect on the formation of the seam. Satisfactory penetration and a smooth outline of the seams welded in carbon dioxide approach them to those welded in helium. The authors developed a method for gas-electric welding with consumable electrode on a standard machine and a wire of over 1.0 mm, using a mixture of carbon dioxide and argon ($\text{CO}_2 = 70 \div 50\%$; $\text{Ar} = 30 \div 50\%$). This mixture reduces the

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S/135/60/000/009/003/015
A006/A002

Welding With Consumable Electrodes of Thin Stainless Steel Sheets in a Mixture of Carbon Dioxide and Argon

critical density of the current, stabilizing the burning of the arc and ensuring the fine-dropped metal transition at a current density of about 60 amps/mm² in welding on reversed polarity and of 40 amps/mm² in welding on straight polarity. The formation of the bead built-up with a consumable electrode in an Ar-CO₂ mixture is similar to that formed in carbon dioxide. Grade "1X18H9T" (1Kh18N9T) steel of 2.5 mm thickness welded with a "0X18H9" (OKh 18N9) wire of 1.2 mm in diameter, was subjected to mechanical tests, which showed high mechanical and anti-corrosion properties of the steel. The authors used an "ADC-1000-2" (ADS-1000-2) automatic machine with a nozzle designed by TsNIITMASH. An additional controllable resistance in the form of a 240-ohm slide rheostat was used for the accelerated electrode feed. The gas conduct system is illustrated in Figure 2. The carbon dioxide gas was dehydrated in a drying device designed by VNIIAVTOGEN, filled with roasted blue vitriol. A generator with rigid characteristics is recommended as a feed source. There are 2 figures and 1 table.

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84634

S/135/60/000/011/008/016

A006/A001

1.2300

(2208, 2308 only)
2708

AUTHOR: Krasulin, Yu.L., Engineer

TITLE: Welding of Metals by Two Indirect Arcs¹⁶

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 11, pp. 29-30

TEXT: The author suggests a method of metal welding with two indirect arcs using the advantages of both a direct and indirect arc. The heat source for heating and melting the base metal and the consumable electrode consists of two arcs, one of which is burning between two unconsumable tungsten electrodes, the other one between the consumable electrode and one of the tungsten electrodes. Power for the former arc is supplied by a transformer with a h-f oscillator, for the latter by a d.c. generator. Argon, assuring stable arc discharge, is used as a shielding gas. The arc between the tungsten electrodes is excited with the aid of the oscillator or by short-circuiting on graphite, the electrode feed is switched on, and the second arc is excited. The thermal effect of two indirect arcs is greater than that of one direct arc. The electrode burn-off rate is twice as high as in welding with a consumable electrode. The metal transfer is easily regulated from drop to spray type. The consumable electrode vibrates

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Welding of Metals by Two Indirect Arcs

S/135/60/000/011/008/016
A006/A001

with sonic frequency which improves the weld shape, the weld structure and the wetting action between the weld and the base metal. It also reduces the current density required for the spray-type transfer. The described heat sources make possible to weld copper on steel, and copper on titanium with a galvanic chrome and nickel coating ($\delta = 30$ microns). The electrode wire may be supplied to the arc vertically or at a small angle to the weld work. The first mode is recommended for welding, the second one for hardfacing. There are 4 figures.

X

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L 10303-63

EWp(k)/EWp(q)/EWt(m)/BDS--AFFTC/

ASD--Pf--JD/HM

ACCESSION NR: AP3001114

S/0125/63/000/007/0001/0007

AUTHOR: Krasulin, Yu. L.; Shorshorov, M. Kh.

TITLE: Wedge test for evaluating the effect of cooling rate on the polygonization of single-phase-structure welds.

SOURCE: Avtomaticheskaya svarka, no. 7, 1963, 1-7

TOPIC TAGS: welding wedge test, EI868 alloy, polygonization of welds

ABSTRACT: A weld-testing wedge made from OKh18N9T austenitic steel was used to determine the critical rate of cooling at which the polygonization of EI868 (Kh25N60B15) heat-resisting nickel alloy is suppressed. The alloy was welded on by an independent double-electrode arc, with a 1.6-mm welding wire. EI868 alloy is a single-phase solid solution strengthened by (about 16 per cent of) tungsten. Metallographic studies revealed that at the cooling rate of over 100 or 1200 per sec. the polygonization boundaries in the welded-on metal disappear. Five microphotographs are presented. Additional alloying of 8 per cent Mo (Mo-wire added in the welding arc) resulted in reducing the cooling rate to 40C per sec. The critical rate of deformation, which determines the hot-crack resistance of the welded-on metal, was found to be 2.8 and 7.3 mm per min. for EI868 and EI868 plus Mo

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L 10303-63

ACCESSION NR: AP3001114

respectively. Orig. art. has: 5 figures, 4 formulas, and 1 table.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 10Jan63

DATE ACQD: 02Aug63

ENCL: 00

SUB CODE: 00

NO REF SOV: 010

OTHER: 000

21/97
Card 2/2

KRASULIN, Yu.L., inzh.; SHORSHOROV, M.Kh., kand. tekhn. nauk

Regulating heat and diffusion processes in the metal fusion
zone during welding and hard facing. Svar. proizvod. no.8:13-
16 Ag '63. (MIRA 17:1)

1. Institut metallurgii imeni A.A. Baykova.

KRASULIN, Yu. L. (Engineer) (IMET)

Reported on control of thermal and diffusion processes in the zone of alloying during welding of metals. "Wedge-shaped welding test for appraisal of influence of speed of cooling on polygonization of seams with single-phase structure".

Report presented at the regular conference of the Moscow city administration NTO Mashprom, April 1963.
(Reported in Avtomaticheskaya Svarka, No. 8, August 1963, pp 93-95, M. M. Popekhin)

JPRS24,651 - 19 May 64

I. 34068-65 EPP(c)/EPP(n)-2/EPR/EPA(s)-2/EPA(w)-2/EMP(k)/EMA(c)/EMT(m)/EPA(bb)-2/
 EMP(b)/T/EMP(e)/EMP(v)/EMP(t) PC-4/Iq-4/Pr-4/PS-4/Pt-10/Pu-4/Pab-10
 WH/WW/JD/HM/JG S/0363/65/001/001/0029/0036 75
 74
 8

ACCESSION NR: AP5007604

AUTHOR: Rykalin, N. N.; Shorshorov, M. Kh.; Krasulin, Yu. L.

TITLE: Physical and chemical problems of joining different materials 18

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 1, 1965, 29-36

TOPIC TAGS: welding, welding energy, welding theory, ceramic welding, glass weld-
 ing, radiation welding 14

ABSTRACT: In a general review of the literature, the authors examine the theoret-
 ical aspects of controlling the joining of different solids by welding through a
 proper selection of temperature, time of phase contact, value of local plastic-
 elastic deformation, and the time of radiation. The process of joining two dif-
 ferent materials is divided into 2 principal stages. In case of joining different
 materials, one of which is in the molten state, the relaxation period of the inter-
 phase energy, during which the diffusion is retarded, must be considered. Particu-
 lar attention is paid to the welding of metals with glass or ceramics (e.g., Al with
 silica) and the welding of solid Ti with liquid Al. The authors conclude that
 these processes require a regulatable energy source to control the type of bond

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ACCESSION NR: AP5007604

produced, but that more research is needed on the nature of the energy characteristics of the joining process and the development of processes using thermal, mechanical and radiation activation. Orig. art. has: 3 figures and 2 formulas.

ASSOCIATION: Institut metallurgii im. A.A. Baykova (Metallurgical institute)

SUBMITTED: 16Sep64

ENCL: 00

SUB CODE: IE, MM

NO REF SOV: 010

OTHER: 003

Card 2/2

RYKALIN, N.N.; KRASULIN, Yu.L.

Estimation of the energy parameters of welding metals by laser light
beams. Dokl. AN SSSR 163 no.1:87-90 J1 '65. (MIRA 18:7)

1. Institut metallurgii im. A.A.Baykova. 2. Chlen-korrespondent AN
SSSR (for Rykalin).

L 4022-66 EWT(d)/EWT(l)/EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/EWP(k)/EWA(h)/EWA(c)
 ACCESSION NR: AP5022258 IJP(c) UR/0363/65/001/007/1090/1097
 JD/HM/EM/AT 537.311.33+546.3

AUTHOR: Krasulin, Yu. L.; Ivanov, V. D.; Kruglov, L. M.

TITLE: Role of dislocations in the formation of joints during pressure welding
 with heating of the metal and semiconductor

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965,
 1090-1097

TOPIC TAGS: pressure welding, crystal dislocation, semiconductor device

ABSTRACT: Metal conductors were welded to silicon single crystals onto which a
 pyrex plunger was pressed to simulate pressure welding. It is found that during
 pressure welding involving the heating of the metal conductors with the semi-
 conductor, dislocations are formed on the surface of the semiconductor in the
 area of its contact with the metal. Chemical bonds between the metal and the
 semiconductor are formed at points where the dislocations emerge to the surface
 of the semiconductor. The number of dislocations formed in the surface layer
 of the semiconductor depends on the welding parameters: temperature, pressure,
 and duration. At low temperatures and short durations lasting less than the
 incubation period, the weld joint between metal conductors and semiconductors is

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L 4022-66

ACCESSION NR: AP5022258

formed owing to adhesive forces (van der Waals and mechanical bonding). Orig.
art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 22Mar65

ENCL: 00

SUB CODE: MM, SS

NO REF SOV: 013

OTHER: 006

Card

2/2

L 3836-66 EWA(k)/FBD/EWT(1)/EPA(s)-2/EWT(m)/EEC(k)-2/EWP(v)/T/EWP(t)/EWP(k)/
EWP(b)/EWA(m)-2/EWA(h)/EWA(c) SCTB/IJP(c) WG/JD/HM

ACCESSION NR: AP5018079

UR/0020/65/163/001/0087/0090

AUTHOR: Rykalin, N. N. (Corresponding member AN SSSR); Krasulin, Yu. L.

TITLE: Estimate of the energy parameters of metal welding by a laser light beam

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 87-90

TOPIC TAGS: metal welding, copper, laser beam, laser application

ABSTRACT: The authors first point out that all experimental evidence indicates that successful welding by means of a laser beam calls for exact knowledge of the distribution of the beam energy over the surface of the welded material. To this end, they estimate the total maximum beam power as well as the power in each spike. The problem is solved for the case of interaction between the light beam and the surface of a semi-infinite thermally conducting body, assuming a Gaussian distribution of the heat developed on the metal surface along the radius of the focused spot. Approximate formulas are derived for the heat and temperature distribution produced by a normally-incident circular laser-beam spot and for the maximum per-unit heat flux. The latter makes it possible to estimate the dimensions of the spot of molten metal on the surface of the welded body and the depth of the weld. The approximate light-beam parameters required for welding thick copper sheets and the dimensions of the welding zone are calculated by way of an example. Methods

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L 3836-66

ACCESSION NR: AP5018079

2

of estimating the laser beam power required to produce a weld of given dimensions are also indicated. It is stated in the conclusion that more accurate calculations call for the knowledge of the spatial and time distribution of the radiation on the end of the laser rod, and on the distribution of the energy in the focused spot. Orig. art. has: 2 figures, 7 formulas, and 2 tables.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Metallurgy Institute) 44

SUBMITTED: 25Feb65

ENCL: 00

SUB CODE: IE

NR REF SOV: 001

OTHER: 005

(Signature)

Card 2/2

L 20750-66 EWA(h)/EWP(k)/EWT(l)/EWT(m)/T/EWP(v)/EWP(t) JD/HM

ACC NR: AP6010145

SOURCE CODE: UR/0125/66/000/003/0064/0066

AUTHOR: Krasulin, Yu. L. (Moscow); Nikitin, V. G. (Moscow); Kus'min, V. I. (Moscow)

ORG: none

TITLE: Welding of integrated circuits with indirect pulse heating

SOURCE: Avtomaticheskaya svarka, no. 3, 1966, 64-66

TOPIC TAGS: integrated circuit, circuit element, circuit microelement, microelement welding, circuit welding

ABSTRACT: A method for pressure welding the microelements of integrated circuits is suggested. In this method the microelements to be welded are heated to the required temperature indirectly by the punch (see Fig. 1) through which a short a-c or d-c pulse is passed. This power pulse brings the temperature in the contact point between the punch and element to be welded to 400—560C, at which only a small pressure is required to achieve a perfect bond. The method was successfully used for bonding aluminum, copper, and gold microwires 0.03—0.1 mm in diameter to aluminum, copper, or

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UDC: 621.791.89

L 20750-66

ACC NR: AP6010145

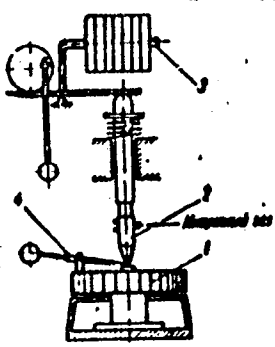


Fig. 1. Layout of the welding unit.

- 1 - Table; 2 - welding head with interchangeable punch; 3 - pressure producing mechanism;
- 4 - microwire feeding mechanism

gold films on sital substrates or gold films on silicon or kovar substrates, and to printed circuits on sital substrates. The weld strength was roughly equal to the strength of the microwire. Orig. art. has: 4 figures and 1 table. [DV]

SUB CODE: 09,13 SUBM DATE: 14Aug65/ ORIG REF: 004/ OTH REF: 002/ ATD PRESS: 4225

Card

2/2

L 37002-66 EWT(m)/T/EWP(v)/EWP(l)/EWP(k)/ETI JD/HM

ACC NR: AP6021487

SOURCE CODE: UR/0413/66/000/011/0129/0129

INVENTOR: Krasulin, Yu. L.; Kuz'min, V. I.; Nikitin, V. G. 38
B

ORG: none

TITLE: Method of pressure welding microscopic parts with indirect heat input. Class 49, No. 182490 16

SOURCE: Izobreteniya, promyshlennyye obraztsey, tovarnyye znaki, no. 11, 1966, 129

TOPIC TAGS: welding, micropart welding, pressure welding

92 1510 QVJ 84

ABSTRACT: This Author Certificate introduces a method of pressure welding microparts with indirect heat input supplied by an electrically heated punch. To preserve the initial properties of one of the welded materials, to facilitate the welding of low-ductility materials, and to increase the efficiency of the process, the punch is heated by a current pulse. [ND]

SUB CODE: 13/ SUBM DATE: 30Jan64/ ATD PRESS: 5035

Card 1/1 PB

UDC: 621.791.66

L 02965-67 EWT(m)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJF(c) JD/EM
ACC NR: AP6032551 (A) SOURCE CODE: UR/0125/66/000/009/0011/0015

AUTHOR: Krasulin, Yu. L.; Kulagin, I. D.

ORG: Institute of Metallurgy im. Baykov (Institut Metallurgii)

TITLE: Controlling the temperature of the melting pool in plasma-arc metal deposition

SOURCE: Avtomaticeskaya svarka, no. 9, 1966, 11-15

TOPIC TAGS: ~~plasma~~ arc welding, plasma arc, metal deposition

ABSTRACT: The temperature of the melting pool in plasma arc welding can be controlled by employing a current carrying filler wire (see Fig. 1). The source of heat in this system is the indirect double arc. One arc is between tungsten electrode 1 and nozzle 2, and the other is between the electrode and current-carrying filler wire 6. The arc between the tungsten electrode and the filler wire produces a plasma jet with a drop transfer of molten filler wire metal. The intensity of this jet can be

Card 1/2

UDC: 621.791.92:536.5

L 02965-67

ACC NR: AP6032551

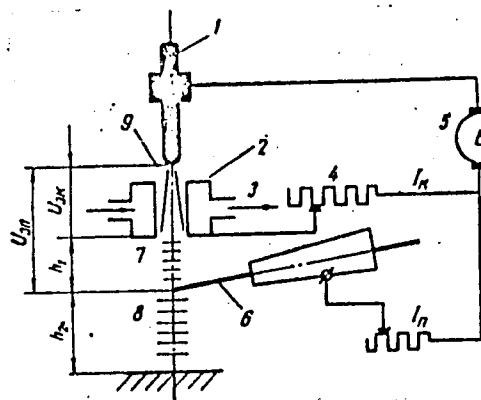


Fig. 1. Plasma-arc metal deposition with current-carrying filler wire

1 - Tungsten electrode; 2 - water-cooled nozzle; 3 - water; 4 - RB-300 ballast rheostat; 5 - PS-500 generator; 6 - filler wire; 7 - plasma stream; 8 - plasma flare with molten filler wire; 9 - plasma-forming gas.

controlled by varying the current in the filler wire. Thus, the temperature of molten metal and also that of the base metal can be regulated in a very wide range. Orig. art. has: 7 figures and 1 table.

SUB CODE: 11, 13/ SUBM DATE: 01Dec65/ ORIG REF: 009/ OTH REF: 001/
ATD PRESS: 5099

Card 2/2 JC

ACC NR: AP7001931

SOURCE CODE: UR/0125/66/000/012/0060/0061

AUTHOR: Krasulin, Yu. L., Kozhevnikov, A. P., Kuz'min, V. I. (Moscow)
(Moscow) (Moscow)

ORG: none

TITLE: Ultrasonic welding of microcircuits with indirect heating of elements

SOURCE: Avtomaticheskaya svarka, no. 12, 1966, 60-61

TOPIC TAGS: ~~microcircuit welding~~, ultrasonic welding, *microelectronic circuit*

ABSTRACT: A method has been developed for welding elements of microcircuits made of dissimilar materials, for instance gold or aluminum welded to silicon or thin films deposited on a semiconductor or ceramic substrate. The method combines ultrasonic welding with simultaneous indirect preheating of the welded parts done by passing a current pulse through a section of the welding tool (See Fig. 1) Experiments showed that the timing of the application of ultrasound depends on the wire material. The best results in welding aluminum wire 0.1 mm in diameter to gallium arsenide and silicon, or gold, tantalum or aluminum films were achieved with ultrasound applied 0.3-0.4 sec prior to heat application. In the case of copper wire and gold film, ultrasound must be

Card 1/2

ACC NR: AP7001931

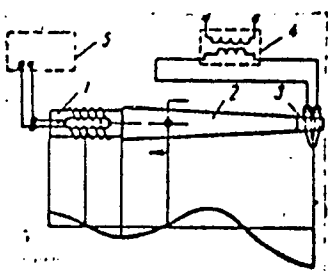


Fig. 1
Layout of ultrasonic welder with indirect heating of welded elements.

1. Transducer; 2. waveguide; 3. welding tool; 4. heater; 5. ultrasonic generator

applied 0.2 sec after the heat application. Orig. art. has: 3 figures and 1 table.

SUB CODE: 13,09,14/SUBM DATE: 04Mar66/ ORIG REF: 004

Card 2/1

ACC NR: AP7005676 (N) SOURCE CODE: UR/0413/67/000/002/0148/0148
INVENTOR: Kraculin, Yu. L.; Kozhevnikov, A. P.; Kuz'min, V. I.
ORG: none
TITLE: A method of ultrasonic welding with heating of the parts being welded. Class 49, 190763
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 148
TOPIC TAGS: ultrasonic welding, ~~miniature part~~ welding *technology*
ABSTRACT: This Author Certificate introduces a method of ultrasonic welding with heating of the parts being welded. To improve the quality of the joints in welding miniature parts, the parts are heated indirectly through heat transfer from the electrically heated welding tool. [MS]
SUB CODE: ~~13~~ 13/ SUBM DATE: 03 Jul 67/ ATD PRESS: 5117

Card 1/1

UDC: 621.791.16

BYSTROV, A. V.; SHALIMOV, A. P.; KRASULINA, A. K.

Use of slag crusts of AN-20 and AN-348A fluxes. Avtom. svar.
16 no.3:93 Mr '63. (MIRA 16:4)

(Electric welding) (Slag)

KRASULINA, D. F.

USSR/Cultivated Plants - Subtropical and Tropical.

M-6

Abs Jour : Ref Zhur - Biol., No 3, 1958, 11093

Author : Zhilina, T.S., Krasulina, D.F.

Inst : -

Title : The Sweet Bay in Kuban'

Orig Pub : Sad i ogorod, 1957, No 8, 71-72

Abstract : A sweet bay hed has been planted on the Kuban' operational base of the Sochi Experimental Station of Subtropical Crops (Maykop).

Card 1/1

BYSTROV, A.V.; KRASULINA, A.K.

Automatic hard facing of suction-type coal dredge parts. Avtom.
svar. 18 no.10:60-62 0 '65. (MIRA 18:12)

1. Kuznetskiy metallurgicheskiy kombinat.

KRASULINA, N. A.

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✓ Study of the structure of novolak resins fixed with hexamethylenetetramine. L. A. Igonin, N. A. Krasulina, and V. A. Kargin (L. Ya. Kargin Sci. Research Phys.-Chem. Inst., Moscow). *Kolloid. Zhur.* 17, 293-8 (1955).—Product of condensation of 6 moles PhOH with 6 moles CH₂O of mol. wt. 360-400 was mixed with 5% hexamethylenetetramine (I) in EtOH, the soln. was evapd. and the residue compressed to a tablet. The increase in the deformability of these tablets with temp. was rapid at $s < 3\%$, i.e. resins contg. little I became viscoplastic at higher temps. (e.g., 60°), while the deformability of resins with $s > 3\%$ little depended on temp. between 100° and 200°. PhOH and dioctyl sebacate are plasticizers of these resins. In the condensation of PhOH-CH₂O resins with I, linear chains with unfrequent cross linkages form; they are embedded in the viscous mass of the low-mol. resin. J. J. Bikerman. Structural analysis of novolaks. C. Boelhouwer, H. I. Waterman and P. H. W. Winands (Tech. Univ., Delft, Neth.). *J. Polymer Sci.* 17, 411-15 (1955).—The structures of certain novolaks, prepd. by polycondensation of HCHO with phenol, *p*-cresol, and *m*-cresol, resp., were investigated. The novolaks were transformed into satd. hydrocarbons, thus expelling O by a relatively mild high-pressure hydrogenation (300°, 260 atm.) by using 100% by wt. of Ni-Cu on kieselguhr catalyst. It can be expected that this treatment does not alter the structural frame of the mols. From ultimate analysis and phys. counts. of the hydrocarbons, conclusions were made as to the structure of the novolaks. They are linear thermoplasts; no extra rings are present. N. J. Petrella

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MTT

KRASULINA, N. A.

6/2/54

Thermomechanical study of the process of formation and of the structure of infusible and insoluble p-cresol-formaldehyde resins. L. A. Ivin, N. A. Krasulina, and V. A. Kargin (L. A. Ivin, N. A. Krasulina, and V. A. Kargin, *Zhur. Khim. 1954*, 10, 34-35 (1954); cf. C.A. 50, 6089d. Moscow).
 CH made of 2 moles p-cresol and 1 mole HCOH had a temp. T of glassy state of 55°; after melting the resin with 2% of 10% (CH₃)₂N₂, T rose to 60° and 185°, resp. Addn. of 10% dioctyl sebacate (I) to the plastic made with 10% (CH₃)₂N₂ lowered T to 140°, while addn. of 20% I resulted in the appearance of a high-elastic state between 170° and 230°; and addn. of more I had the usual effect of plasticizers of amorphous linear polymers. During the reaction of resin with (CH₃)₂N₂, T gradually increased until it reached the reaction temp.; then the viscosity of the melt suddenly rose, the condensation stopped, and the compn. of the resulting plastic remained "frozen". J. J. Bikerman.

A

KRASULINA, N. A.

7694* (Russian.) Kinetics of Phenol-Formaldehyde Resin
Solidification Using Hexamethylaziridine. K voprosu o
kinetike otverzheniya fenolno-formal'dezilnykh smol s
pomoshch'yu geksametillentetramina. L. A. Isaeva, E. G.
Ginsberg, N. A. Krasulina, and V. A. Kargin. Doklady Akademii
Nauk SSSR, v. 171, Dec. 21, 1958, p. 1232-1234.
Results of thermomechanical studies in the presence of a series
of additives which can act as donors of free radicals.

15.8106

86291
S/190/60/002/008/002/017
B004/B054

AUTHORS: Igonin, L. A., Yelisseyev, Yu. A., Dyurgerov, O. A.,
Krasulina, N. A.

TITLE: Formation of Stable Free Radicals in the Process of Hardening and Thermal Destruction of Phenol Formaldehyde Resins

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 8,
pp. 1167-1170

TEXT: The object of the present paper is the proof that in the hardening process of phenol formaldehyde resins not only dense-network polymers are formed but also thermal destruction processes are taking place. The shear stress of some resins as a function of time at rising temperature was determined by an I. F. Kanavets plastometer (Ref. 2). Samples used were: Novolac resin of the type K-18 (K-18) with 4% by weight of hexamethylene tetramine and 30% of dibutyl phthalate; poly-oxybenzylamine from p-cresol, and the same compound made of tricresol. Fig. 2 shows the shear stress as a function of temperature. At 150-170°C, poly-oxybenzylamine behaved like amorphous linear polymers with poorly marked network. At higher temperature

Card 1/3

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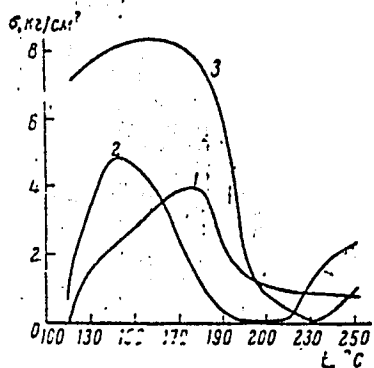
Formation of Stable Free Radicals in the S/190/60/002/008/002/017
 Process of Hardening and Thermal Destruction B004/B054
 of Phenol Formaldehyde Resins

the network was destroyed; above 200°C, however, a dense network was formed which is revealed by an increase in shear stress. This is explained by recombination of macroradicals which had formed during thermal destruction. This assumption was checked by electron paramagnetic resonance (epr) spectra. The epr spectra were taken by a spectrometer designed by the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR). A concentration of 10^{14} paramagnetic particles/cm³ was found for Novolac, and of $5 \cdot 10^{15}$ for poly-oxybenzylamines. The epr spectra remained unchanged after storing the samples for months. Origin and structure of these very stable free radicals require further investigation. The authors thank V. V. Voyevodskiy for taking the epr spectra in his laboratory, and V. A. Kargin for a discussion. There are 3 figures and 4 references: 3 Soviet and 1 British.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass
 (Scientific Research Institute of Plastics)

SUBMITTED: March 15, 1960

Card 2/3



86 291

S/190/60/003/003/007/017
B004/B054

Legend to Fig. 2: Change of the limit shear stress during the hardening process of phenol formaldehyde resins. 1: Novolac resin K-18 with 30% of plasticizer and 4% of hexamethylene tetramine; 2: poly-oxybenzylamine from p-cresol; 3: poly-oxybenzylamine from tricresol.

Fig. 3/2

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S/076/60/034/02/006/044
B010/B015

5.3832
AUTHORS:

Igonin, L. A., Gintsberg, E. G.,
Krasulina, N. A., Bass, S. I.,
Kargin, V. A.

TITLE:

Investigation of Oxybenzylamines Obtained From Phenol and Its
Mononuclear Derivatives

PERIODICAL:

Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 2, pp 287-294 (USSR)

ABSTRACT:

On the basis of publication data it may be assumed that oxybenzyl-
amines form as intermediates in the hardening of Novolack phenol
formaldehyde resins with hexamethylenetetramine. In oxybenzyl-
amines, the phenol nuclei are connected by dimethylamine- or tri-
methylamine bridges. At high temperatures, these bridges are trans-
formed into methylene- or azomethine bridges. In the present case,
a series of oxybenzylamines, obtained from phenol and its mono-
nuclear derivatives, were investigated thermomechanically as well
as by spectral analysis. The absorption spectra were taken by the
IKS-11 spectrograph, and are given for 2,2'-dioxy-3,5,3',5'-tetra-
methyldibenzylamine and the corresponding tribenzylamine (Fig 1).
The absorption bands observed at 11.84μ in dibenzylamine and at
 11.92μ in tribenzylamine are traced back to the dimethylenamine-
and trimethylenamine bridges between the phenol nuclei. This

Card 1/3

Investigation of Oxybenzylamines Obtained From
Phenol and Its Mononuclear Derivatives

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assumption is confirmed by the absorption spectra (Fig 2) of the multinuclear oxybenzylamines. The latter were prepared by a method described earlier (Table 1, preparation conditions). All spectra of the oxybenzylamines obtained from phenol and its para-substituted derivatives show the 11.84μ band whereas with oxybenzylamine obtained from o-chlorophenol this band lies at 11.92μ . Thus, it can be seen that it is the reaction between hexamethylenetetramine and the mononuclear phenols in a diphenyl solution that leads to the formation of the polymeric oxybenzylamines (Table 2, suggested structural formulas of polymers). The polyoxybenzylamines obtained from phenol and its para-substituted derivatives are amorphous linear polymers reticulated by individual cross bindings. The polymers have very strong chains whose T_g value lies above their thermal stability. The o-substituted derivatives form strongly ramified and reticulated polymers. The polyoxybenzylamines obtained from phenol reticulate under the effect of heat, and pass over into a non-meltable and insoluble state whereas polybenzylamines obtained from o- and p-substituted derivatives of phenol are thermally instable, and decompose at a temperature above 160°C forming low-molecular products. There are 6 figures, 2 tables, and 6 references, 1 of

Card 2/3

Investigation of Oxybenzylamines Obtained From
Phenol and Its Mononuclear Derivatives

which is Soviet.

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B010/B015

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass
(Scientific Research Institute of Plastics) ✓

SUBMITTED: April 3, 1958

Card 3/3

KRASULINA, T.P. (Leningrad)

Note on some stochastic approximation processes. Teor. veroiat. i
ee prim. 7 no.1:113-118 '62. (MIRA 15:3)
(Chance)(Approximate computation)

KRASULINA, T. P.

Transactions of the Sixth Conference (Cont.)

SOV/6371

71. Gladkov, B. V. Some Problems in the Tabulation of the Beta-Distribution 385
72. D'yachenko, Z. N. Surface of a Gamma-Type Distribution 389
73. Kagan, A. M. Some Properties of the Estimates of Maximum Likelihood 397
74. Chentsov, N. N. On the Asymptotic Effectiveness of an Estimate of Maximum Likelihood (comment on A. M. Kagan's report "Some Properties of the Estimates of Maximum Likelihood") 399
75. Krasulina, T. P. On Stochastic Approximation 403
76. Maniya, G. M. Quadratic Estimation of the Discrepancy of the Densities of a Normal Two-Dimensional Distribution From Sampling Data 407

Transactions of the 6th Conf. on Probability Theory and Mathematical Statistics and of the Symposium on Distributions in Infinite-Dimensional Spaces held in Vil'nyus, 5-10 Sep '60. Vil'nyus Gospolitizdat Lit SSR, 1962. 493 p. 2500 copies printed

Krasulina, V. N.
 Copolymerization of diethylenic hydrocarbons with vinyl ethers. I. Peculiarities of the process of copolymerization of chloroprene with vinyl ethers. S. P. Mitsenkovskiy, V. N. Krasulina, and L. B. Trukhmanova (Inst. High Polym. Acad. Sci. U.S.S.R., Moscow). *Izv. Akad. Nauk S.S.S.R., Khim. Nauk* 1956, 1120-2. Study of emulsion copolymerization of chloroprene with iso-PrOCH₂CH₃ with FeSO₄-glucose-pyrophosphate reduction-oxidation system as the initiator showed that copolymerization occurs readily and that chloroprene predominates in the product, with little change in compn. at different temps. (-2° and 40°). In mass copolymerization studied with Bz₂O₂ the reaction does not proceed by the radical route; the ether component predominates in the product, and the compn. of the product is inconstant; thus contact with air increases the content of the ether in copolymer, while under N₂ the chloroprene component prevails. The use of bisazobisobutyronitrile gave the same result. The product of cationic copolymerization predominates in all cases. The copolymers were fractionated and mol. wts. up to 60,000-80,000 were readily obtained. The consts. of the radical copolymerization are: r_1 0.164, and r_2 11.45, which values indicate the considerable influence of the radical of the ether, in contrast to its behavior with other monomers. The compn. of emulsion copolymers agrees with expected values from radical copolymerization.
 G. M. Kosolapoff

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KNASULINA, V.N., NEYZENBERGER, S.P., KOROCHOV, A. A.

"Polymerization of Methylacrylate with Butyl-lithium," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 21 Jan-2 Feb 57, Moscow, Polymer Research Inst.

B-3,084,395

KRASULINA, V. N.

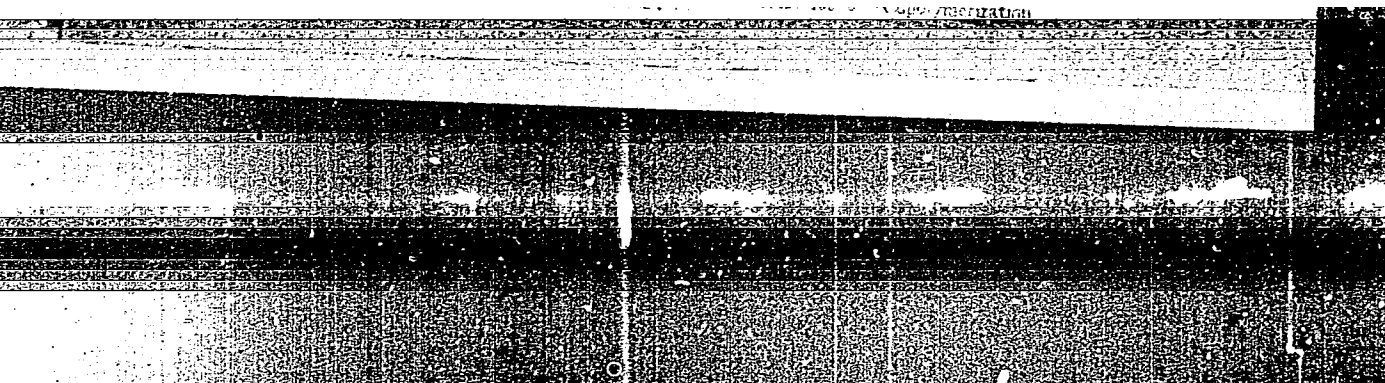
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✓ Copolymerization of diene hydrocarbons with vinyl alkyl ethers. I. Effect of carbon tetrachloride on the mechanism of copolymerization of butadiene with vinyl alkyl ethers. B. N. Lisitskaya, S. P. Gerasimov, and V. N. Krasulina (High Polymer Inst., Leningrad). Izv. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1983, 568 74, cf. C.A. 31, 81983. — Copolymerization of iso- $\text{PrOCH}_2\text{CH}_3$ or $\text{EtOCH}_2\text{CH}_3$ with 1,3-butadiene was examined by homogeneous reactions under N_2 or CO_2 in acryls at 55° . With Bz_2O_2 , diazaminobenzene, or azobisobutyronitrile catalysts the copolymers contained 82–95% butadiene units and were obtained in yields up to 11.5%; in this series diazaminobenzene was the most effective catalyst. When CCl_4 was added to the system the reaction was accelerated, the effect paralleling the amt. of ROCH_2CH_3 added to the diene. Thus with 4:1 mole ratio of monomers with 2% Bz_2O_2 and 20% CCl_4 a 65% yield of polymer was formed in 2.6 hrs., whereas without CCl_4 the system gave 0% polymer in 200 hrs. Azobisobutyronitrile was affected similarly, when it was used as the catalyst. The content of butadiene units in the product increases with increased proportion of butadiene in the initial system at an increasing rate. The results indicate that in the presence of CCl_4 the reaction changes from conventional radical polymerization to an ionic (cationic) mechanism, with the vinyl group of the ether acting as a neg. group. The copolymer contains a predominance of vinyl ether links, with increased duration of polymerization the proportion of butadiene links increases.

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826220



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CIA-RDP86-00513R000826220

US HAKOV, S.N; MITSENGENDLER, S.P; KRASULINA, V.N.

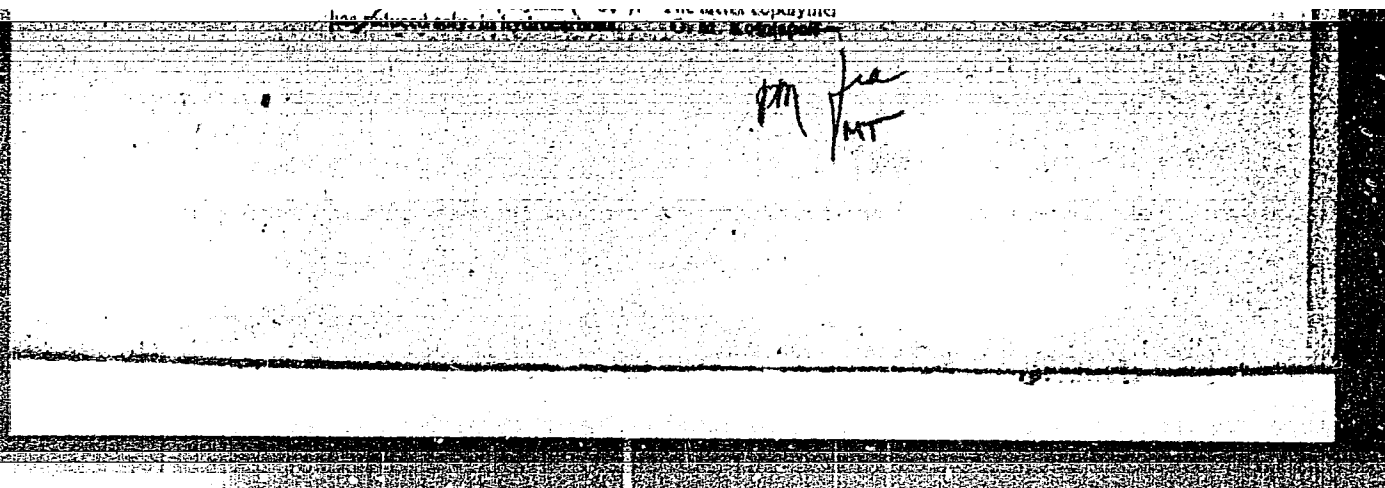
of $\text{CH}_2=\text{CHCH}=\text{CH}_2$ with $\text{iso-PrOCH}=\text{CH}_2$ or $\text{BuOCH}=\text{CH}_2$ in emulsion at 65° with oxidation-reduction initiator of FeSO_4 , $\text{Na}_2\text{P}_2\text{O}_7$, and glucose was examd. with and without CCl_4 in the system. The action of CCl_4 is expressed under these conditions and the reaction proceeds by radical route. The copolymer formed has low mol. wt. (about 3000) owing to introduction of the ether links. Introduction of even 20% ether links into the

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APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000826220C

USHAKOV, S.N.; MITSENGENDLER, S.P.; KRASULINA, V.N.

Copolymerization of diethylene hydrocarbons with vinylalkyl ethers.
Report No.2: Copolymerization of divinyl with vinylalkyl ethers
in emulsion at low temperatures. Izv.AN SSSR Otd.khim.nauk no.4:490-493
Ap '57. (MIRA 10:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Polymerization) (Ethers)

KOROTKOV, A.A.; MITSENGENDLER, S.P.; KRASULINA, V.N.; VOLKOVA, L.A.

Synthesis of polymethyl methacrylate of regular structure. Vysokom.
soed. 1 no.9:1319-1326 S '59. (MIRA 13:3)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Methacrylic acid)

PHASE I BOOK EXPLANATION 507/1985

International symposium on macromolecular chemistry. Moscow, 1960.
 Nachshchennyye stepeniye po makromolekulyarnoy khimii, 1960, Moskva, 14-18 Iyunya
 1960 g. Sostavlyayut 11. (International Symposium on
 Macromolecular Chemistry Held in Moscow, June 14-18, 1960. Papers and Summaries)
 Section II. (Moscow, Izdatvo AN SSSR, 1960) 559 p., 5,500 copies printed.

Sponsoring Agency: The International Union of Pure and Applied Chemistry, Com-
 mission on Macromolecular Chemistry

Tech. Ed.: T.A. Prusakov.

RUSSIAN: This book is intended for chemists interested in polymerization re-
 actions and the synthesis of high-molecular compounds.

COMMENT: This is Section II of a multi-volume work containing papers on macro-
 molecular chemistry. The papers in this volume deal mainly with kinetics of
 various polymerization reactions initiated by different catalysts or induced
 by radiation. Among the research techniques discussed are electron paramagnetic
 resonance spectroscopy and light-scattering spectroscopy. The papers are com-
 piled in English, French and Russian. No personalitis are mentioned. Refer-
 ences follow each article.

Radziszewski, R.J., and J.A. Bickelstein (USSR). Inhibition of Polymeri-
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Radziszewski, R.J., and A. S. (Czechoslovakia). On the Role of Polar
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RUSSIA, U. S. ; RUSSIA, U. S. ;

Vladimir.

Loosening soils in vineyards with chis 1 (subdivisor). VII. 332 1, No. 1, 1954.

Monthly List of Russian Accessions, Library of Congress, August 1954. Unclassified.

MERKULOV, V.A., kand.tekhn.nauk; KRASUNTSEV, Ye.M., inzh.;
ARAKEL'YANTS, A.K., inzh.

Effect of the ventilation system on the temperature conditions
in the working face of blind workings. Trudy Sem.po gor.
teplotekh. no.4:106-112 '62. (MIRA 15:8)

1. Shakhtinskiy nauchno-issledovatel'skiy i proyektno-konstruktorskiy
ugol'nyy institut.

(Mine ventilation)

KRASUNTSEV, Ye., inzh. (g.Shakhty)

Transistorized electric thermometers. Radio no.4:47-48 Ap '65.
(MIRA 18:5)

MERKULOV, V.A., kand.tekhn.nauk; ARAKEL'YANTS, A.K., inzh.; KRASUNTSEV,
Ye.M., inzh.

Improving the climatic conditions in stopes of Artem Mine No.2.
Trudy Sem.po gor.teplotekh. no.4:136-140 '62. (MIRA 15:8)

1. Shakhtinskiy nauchno-issledovatel'skiy i proyektno-konstruktorskiy
ugol'nyy institut.
(Donets Basin—Mine ventilation)

KRASUSKA, Wanda

Causes of deaths in Warsaw from 1882 to 1962. Zdrow. publiczne
no.4/5:139-146 Ap-My '65.

1. Z Zakladu Higieny Ogolnej AM w Warszawie (Kierownik: prof.
dr. M. Kacprzak).

AUTHORS: Knunyants, I. L., Mysov, Ye. I., SOV/62-58-7-24/26
Krasuskaya, M. P.

TITLE: The Catalytic Hydration of the ϕ -Olefines (Kataliticheskoye gidrirovaniye ϕ -olefinov)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 7, pp 906 - 907 (USSR)

ABSTRACT: The investigation of the catalytic hydration of the ϕ -olefines besides its practical importance is also interesting because it is directly connected with important problems concerning the theory of heterogeneous catalysis. The rate of hydration depends on the state of the π -bond of the olefines. It increases with the decrease of the electron density of the bond, if the removal of the electrons from the catalyst lattice by the olefine molecule is the primary phenomenon in this process. The authors of the present paper showed that ϕ -ethylene, ϕ -propylene, ϕ -isobutylene, and other ϕ -olefines may be easily hydrated with molecular hydrogen on a palladium and nickel catalyst. The enclosed table gives the formulae of the initial olefine, the name of the catalyst, the hydration temperatures, the hydration

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SOV/62-58-7-24/26

The Catalytic Hydration of the ϕ -Olefines

products etc. Based on the observations made it may be assumed with great probability that the property of easy hydration of the olefine series increases from m -ethylene to ϕ -isobutylene. There are 1 table and 7 non-Soviet references.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds, AS USSR)

SUBMITTED: May 12, 1958

Card 2/2

82692

S/062/60/000/008/006/012
B004/B054

5.3600

AUTHORS:

Knunyants, I. L., Krasuskaya, M. P., and Mysov, Ye. I.

TITLE:

Reactions of Fluoro Olefins. 13. Catalytic Hydrogenation
of Perfluoro Olefins 7

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk,
1960, No. 8, pp 1412-1418

TEXT: In previous papers (Refs. 3, 4) the authors had been dealing with the hydrogenation of fluoro olefins, which easily proceeds on a palladium- or nickel catalyst. In the present paper they report on the hydrogenation of tetrafluoro- and trifluoro ethylene as well as on the fact that the products of hydrogenation of some hydrocarbon fluorides easily split off hydrogen fluoride under the action of alkali; here, fluoro olefins are formed which cannot, or can only with great difficulty, be produced by means of the usual methods of halogenation. In this connection, the authors give the following reaction chains: Perfluoro isobutylene is hydrogenated to 1,1,3,3,3-pentafluoro-2-trifluoromethyl propane (I), which in aqueous alkali solution easily yields HF, and forms 1,3,3,3-tetrafluoro-2-trifluoromethylpropene-1 (II) the structure of which was established by oxidation

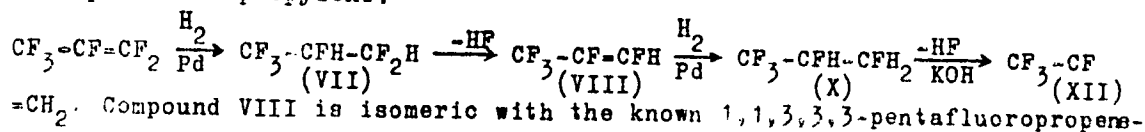
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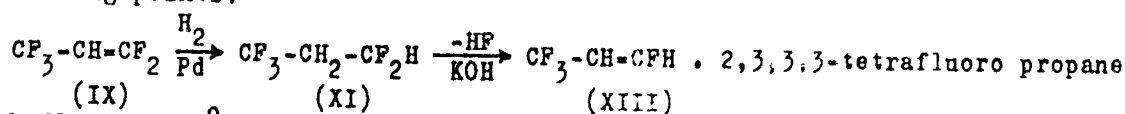
Reactions of Fluoro Olefins. 13. Catalytic
Hydrogenation of Perfluoro Olefins

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B004/B054

to hexafluoro acetone. Hydrogenation of (II) yielded 1,3,3,3-tetrafluoro-2-trifluoromethyl propane (III). Hexafluoro isobutylene (IV) resulted therefrom by giving off HF. Hydrogenation of (IV) produced 3,3,3-trifluoro-2-trifluoromethyl propane (V), and from the latter 1,1,3,3,3-pentafluoro-2-methylpropene-1 (VI) was obtained by passing it through 90% molten KOH at 70°C. The authors performed a similar successive series of reactions with perfluoro propylene:



Compound VIII is isomeric with the known 1,1,3,3,3-pentafluoropropene-1 (IX) but shows a different spectrum of nuclear magnetic resonance. Besides, the hydrogenation and HF-release of IX yields products with other boiling points: ✓



boiling at -1°C was obtained as a by-product of hydrogenation of VIII. The
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Reactions of Fluoro Olefins. 13. Catalytic
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hydrogenation of perfluoro butadiene yielded 1,1,2,3,4,4-hexafluoro butane which, with one mole of HF in 2,3-position splitting off, was transformed to $CF_2-CH-CH_2H$. A table shows the boiling points of the compounds

obtained. In the experimental part of the paper, the authors indicate the production of the Pd- and Ni catalyst, and the reactions performed, as well as the physical data and analyses of the compounds obtained. There are 1 table and 16 references: 3 Soviet, 5 US, 6 British, 1 Canadian, and 1 German. X

ASSOCIATION: Institut elementoorganicheskikh ~~soyedineniy~~ Akademii nauk
SSSR (Institute of Elemental-organic Compounds of the
Academy of Sciences, USSR)

SUBMITTED: March 3, 1959

Card 3/3

43309

S/062/62/000/012/004/007
B117/B101

5.3600

AUTHORS: Knunyants, I. L., Krasuskaya, M. P., Mysov, Ye. I., and
Mukhtarov, I. A.

TITLE: Reactions of fluoro olefins. Communication 15. Catalytic
hydrogenation of perfluoro cyclobutene

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 12, 1962, 2141-2145

TEXT: A Pd catalyst was used for the hydrogenation of perfluoro cyclo-
butene at room temperature. A mixture containing two isomers of 1,2-di-
hydroperfluoro cyclobutane was found to form: one (approximately 90%)
with a boiling point of 63°C (d_4^{20} 1.5760; n_D^{20} 1.2985) and the other (less
than 10%) with a boiling point of 27°C (d_4^{15} 1.5580; n_D^{15} 1.2970). Radio-

spectroscopic studies were made to determine the configuration of the
isomers separated by distillation. An analysis of the rotational bands in
microwave absorption spectra showed the isomer with the higher boiling point
to have a cis-configuration and that with the lower boiling point to have a
trans-configuration. Dehydrofluorination converted both isomers into
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Reactions of fluoro olefins...

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B117/B101

1-hydroperfluoro cyclobutene, b.p. 26°C. Oxidation of the latter yielded tetrafluoro succinic acid m.p. 115-120°C. 1,1,2-trihydroperfluoro cyclobutane (83%; b.p. 50-52°C; d_4^{20} 1.441; n_D^{20} 1.3025) was obtained by hydrogenating 1-hydroperfluoro cyclobutene on a Pd catalyst. It was then dehydrofluorinated into 1,2-dihydroperfluoro cyclobutene, b.p. 53-54°C, and dibromide, b.p. 117-119°C, and dehydrobromated into 1-bromo-2-hydro-tetrafluoro cyclobutene, b.p. 72-74°C. 1,1,2,2-tetrahydroperfluoro cyclobutane, b.p. 50°C, n_D^{20} 1.3038, was obtained by hydrogenating 1,2-dihydroperfluoro cyclobutene on Pd/Al₂O₃ at 60-70°C.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: April 12, 1962

Card 2/2

S/062/63/000/001/021/025
B101/B186

AUTHORS: Knunyants, I. L., and Krasuskaya, M. P.

TITLE: Derivatives of perfluoro dicarboxylic acids

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1963, 190 - 192

TEXT: The synthesis of perfluoro adipic acid (I), perfluoro sebacic acid (II), and perfluoro dodecamethylenic acid (III) by oxidation of the corresponding α,ω -perfluoro diolefins has been described in a previous paper (Izv. AN SSSR, Otd. khim. n. 1961, no. 8, 1462). The following substances were synthesized in the present study: (1) Diethyl ester of I, yield 90%, b.p. 96-97°C/7 mm Hg, n_D^{20} 1.3541, d_4^{20} 1.426; diethyl ester of II, yield 95%, b.p. 118-120°C/5 mm Hg, n_D^{20} 1.3424, d_4^{20} 1.578; and diethyl ester of III, yield 70%, b.p. 142-143°C/5 mm Hg, n_D^{20} 1.3408, d_4^{20} 1.686, by reaction of I, II, and III, respectively, with absolute ethanol in the presence of fluosulfonic acid; (2) dichloride of I, yield 78%, b.p. 130-132°C, n_D^{20} 1.3484; Card 1/3

Derivatives of perfluoro ...

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dichloride of II, yield 78%, b.p. 115-117°C/40 mm Hg, m.p. 29-30°C; and dichloride of III, yield 74%, b.p. 161°C, m.p. 92-95°C, by reaction with SOCl_2 ; (3) diamide of I, m.p. 235-238°C, diamide of II, m.p. 238-239°C, and diamide of III, m.p. 242-244°C, were obtained in 95-98% yields from the diethyl esters of I, II, and III by reaction with NH_3 gas in absolute ether; (4) dinitrile of I, b.p. 63°C, yield 77%, dinitrile of II, yield 80%, b.p. 147-148°C, n_D^{20} 1.3039, $d = 1.673$, and dinitrile of III, b.p. 115-120°C/10 mm Hg, m.p. 78°C (from acetone), were obtained from the diamides of I, II, and III by reaction with P_2O_5 at 100-300°C; (5) amidine of I, m.p. 154°C, amidine of II, m.p. 173-175°C (with decomposition), and amidine of III, m.p. 187-190°C (with decomposition) were obtained in 96-99% yields from the dinitriles of I, II, and III by reaction with liquid NH_3 ; (6) $\alpha, \alpha, \omega, \omega$ -tetrahydroperfluoro hexane diol, yield 80%, b.p. 118-120°C/11 mm Hg, m.p. 67-68°C, whose phenyl urethane complex, crystallized from CCl_4 , has m.p. 140°C; $\alpha, \alpha, \omega, \omega$ -tetrahydroperfluoro decane diol; yield 90%, b.p. 132°C/4 mm Hg,

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Derivatives of perfluoro ...

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B101/B186

m.p. 135-136°C, phenyl urethane complex m.p. 140-141°C; and 2, 2, 4, 4-tetrahydroperfluoro tetradecane diol, yield 87%, m.p. 183-184°C, phenyl urethane complex m.p. 153-154°C, were obtained from the diethyl esters of I, II, and III by reaction with NaBH_4 and AlCl_3 in diglym (diethylene-glycol dimethyl ether).

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: August 30, 1962

Card 3/3

KNUNYANTS, I.L.; KRASUSKAYA, M.P.; GAMBARYAN, N.P.

Nucleophilic addition of hydrogen halides to perfluoroisobutylene.
Izv. AN SSSR. Ser. khim. no.4:723-726 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ACC NR: AP7000736

SOURCE CODE: UR/0062/66/000/006/1110/1111

KNUNYANTS, I. L., KRASUSKAYA, M. F., DEL'TSOVA, D. P., Institute of Hetero-organic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soedineniy AN SSSR)

"Perfluorodiisocyanates"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, 1966, pp 1110-1111

Abstract: Perfluorodiisocyanates $\text{OCN}(\text{CF}_2)_n\text{NCO}$ ($n = 3, 4, 8$) were produced by reactions of perfluorodicarboxylic acid hydrazides with nitrous acid or perfluorocarboxylic acid chlorides with sodium azide, followed by rearrangement of these acid azides formed under the conditions of the Curtius reaction. Perfluoropolymethylenediisocyanates react vigorously with alcohols, to give the corresponding perfluoropolymethylenediurethans. Orig. art. has: 2 formulas.

JPRS: 37,023

TOPIC TAGS: organic cyanate compound, fluorinated organic compound, azide
SUB CODE: 07 / SUBM DATE: 10Dec65 / ORIG REF: 001 / OTH REF: 002

Card 1/1

UDC: 542.91 + 547.239 + 546.1

KRASUSKAYA, N.A.; PAVLOV, B.V.

Characteristics of the inhibition of the delay in lower apes.
Trudy Inst. fiziol. 10:238-244 '62 (MIRA 17:3)

1. Laboratoriya sravnitel'noy fiziologii vysshey nervnoy de-
yatel'nosti (zav. - B.V. Pavlov) Instituta fiziologii imeni
Pavlova AN SSSR.

BARU, A.V.; BOLOTINA, O.P.; KRASUSKAYA, N.A.; LUKINA, Ye.V.; PAVLOV, B.V.;
PRAZDNIKOVA, N.V.; ŠAF'YANTS, V.I.; CHEBYKIN, D.A.

Material on a study of the dynamics of conditioned reflex activity
of representatives of certain classes of vertebrates. Trudy Inst.
fiziol. 8:99-106 '59. (MIRA 13:5)

1. Laboratoriya sravnitel'noy fiziologii vysshey nervnoy deyatel'-
nosti (zaveduyushchiy - B.V. Pavlov) Instituta fiziologii im. I.P.
Pavlova AN SSSR.

(NERVOUS SYSTEM--VERTEBRATES) (CONDITIONED RESPONSE)

KRASUSKAYA, N.A.; FIRSOV, L.A.

Dynamics of conditioned trace reflexes in hamadryad baboons seen with relation to cyclic changes in the sexual sphere. Trudy Inst. fiziol. 8:122-127 '59. (MIRA 13:5)

1. Laboratoriya sravnitel'noy fiziologii vysshey nervnoy deyatel'nosti (zaveduyushchiy - B.V. Pavlov) i Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti (zaveduyushchiy - F.P. Mayorov) Instituta fiziologii im. I.P. Pavlova AN SSSR.
(CONDITIONED RESPONSE) (ESTRUS)

15-57-4-4280D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4,
p 34 (USSR)

AUTHOR: Krasuskaya, N. Ye.

TITLE: Geomorphology of the Cheremosh River Valley (Geomorfologiya doliny reki Cheremosh)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Geological and Mineralogical Sciences, presented to the L'vovsk. un-t (University of Lvov), L'vov, 1956.

ASSOCIATION: L'vovsk. un-t (University of Lvov)

Card 1/1

KRASUS'AYA, M.Ye., Cand Geol Min Sci — (diss) "Geomorphology of
the Choremosh river valley." ³L'vov, 1959, 18 pp (Min of Higher Education
UkSSR. L'vov Polytechnical Inst) 150 ²copies (KL, 36-59, 113)

KRASUSKAYA, N.Ye. [Krasus'ka, N.IE.]

Economic importance of the Cheremosh River Valley. Geog.
zbir. no.4:191-193 '61. (MIRA 14:8)
(Cheremosh Valley--Economic geography)

SOBIECH, T.; KRASUSKI, J. (Wroclaw)

Value of dilute tuberculins in the diagnosis of tuberculosis in
hens. Roczn. nauk roln. wet. 70 no.1/4:166 '60.

(EEAI 10:9)

(Poultry) (Tuberculosis) (Tuberculin)

KRASUSKI, Tadeusz; PECZAK, Jerzy

State of technology of the Polish production of plant protection agents. Pt. 1. Przem chem 40 no.9:485-488 S '61.

1. Zjednoczenie Przemyslu Organicznego i Worzyw Sztucznych, Warszawa.

KRASUSKI, Tadeusz; PECZAK, Jerzy

Technological development of the Polish production of plant protection agents. Pt. 2. *Przem chem* 40 no.10:545-548 0 '61.

1. Zjednoczenie Przemyslu Organicznego i Tworzyw Sztucznych.

KRASUSKI, Tadeusz, mgr inż.

Proper order in the raw material management in the chemical industry.
Chemik 15 no.5:169-170 My '62.

1. Ministerstwo Przemysłu Chemicznego, Warszawa.